

MODIS Team Meeting Minutes

Minutes of the MODIS Team Meeting held on Tuesday November 1, 1994.

Action Items:

94. Provide a detailed (high fidelity) analysis of scatter in the scan cavity. The results would determine the need for PF near field scatter measurements vs scan angle. Assigned to Guenther 8/23/94 Preliminary results due 10/15/94. Final due 2/28/95.
95. SBRC & GSFC to team to investigate possible corrections for the spurious response effects in the filters. Assigned to Waluschka 8/23/94. Due 10/25/94
97. Review the SBRC IR&D report on the Indium Bump process and provide comments on acceptability. Assigned to Roberto, Martineau, and Ellis 9/30/94. Due 10/ 4/94
98. Review August schedules and provide a summary of subsystem schedule status. Assigned to Davis, Ferragut, Waluschka, Martineau, Safren and Daelemans 8/30/94. Due 9/20/94. Waluschka, Martineau, and Safren have complied.
100. Devise an electronic distribution and communication system to use when GSFCMAIL shuts down. Assigned to Bauernschub 10/25/94. Due 11/29/94.
101. Provide an assessment of the SBRC test plan to measure radiometric accuracy as a function of scan angle position (sections 11.6.3 and 11.7 of the Performance Verification Plan). Assigned to Guenther 10/25/94. Due 11/29/94
102. Review and report on the assigned SBRC test specifications and procedures. Assigned to Waluschka 10/31/94. Due 11/22/94
103. Review and report on the assigned SBRC test specifications and procedures. Assigned to Martineau 10/31/94. Due 11/22/94
104. Review and report on the assigned SBRC test specifications and procedures. Assigned to Ferragut 10/31/94. Due 11/22/94
105. Review and report on the assigned SBRC test specifications and procedures. Assigned to Daelemans 10/31/94. Due 11/22/94
106. Review and report on the assigned SBRC test specifications and procedures. Assigned to Florez 10/31/94. Due 11/22/94
107. Review and report on the assigned SBRC test specifications and procedures. Assigned to Davis 10/31/94. Due 11/22/94

The following items were distributed:

- 1) Weekly Status Report #162
- 2) SBRC Memos submission from week #154
- 3) Minutes of the previous team meeting

Attendees:

✓ Richard Weber	Bruce Guenther	✓ Larissa Graziani
✓ John Bauernschub	George Daelemans	✓ Bob Martineau
✓ Rosemary Vail	Patricia Weir	✓ Bob Silva
✓ Lisa Shears	✓ Mitch Davis	Robert Kiwak
✓ Mike Roberto	✓ Ken Anderson	✓ Harvey Safren
✓ Nelson Ferragut	✓ Rick Sabatino	✓ Ed Knight
✓ Gene Waluschka	Cherie Congedo	✓ Harry Montgomery
Bill Barnes	✓ Jose Florez	Marvin Maxwell
✓ Les Thompson	Gerry Godden	✓ Bill Mocarsky
	Sal Cicchelli	✓ Helen Phillips

General

BRDF and reflectivity data is available on a scan mirror sample.

We are interested in any information that may be available on Integrated Technologies Inc. of Bothell, WA. The plan is for this company to make the door/baffle assembly for the space view door.

Dick Weber -

The replan arrived on October 31.

Rosemary Veil -

Rosemary made a presentation on the Performance Measurement Status Reports (PMSR). The latest report is the first report against the new baseline. The budget is the new replanned baseline. The cost and schedule variances are now real. It is important for us to understand trends in the variances when reviewing the PMSRs. We should understand the labor, material, and other direct costs. Overhead is about double labor and G&A is about 25% of overhead.

Budget variances at completion have already shown up in the latest PMSR. This is related to the fact SBRC has been working against the new plan since May.

A couple of definitions:

- 1) the schedule variance is the budgeted cost of work performed minus the cost of work scheduled.
- 2) the cost variance is the budgeted cost of work performed minus the actual cost of work performed.

Helen Philips is the resource person who will be supporting MODIS this winter.

Les Thompson -

Headquarters is not going forward with ocean color for Landsat.

Gene Waluschka -

Gene was contacted by Jim Bremer of Swales. He has done a little analysis and a lab experiment related to the effects of hole patterns in a plate which may be applicable to the design of the hole pattern for the solar diffuser screen. There will be a followup meeting with Jim.

Mitch Davis -

As of November 3, the MEM is still not in the thermal chamber. There is still an electrical problem with the MEM. The FAM, SAM, and CLAM are being baked out and will be done Friday.

Mitch will be on travel for a couple of weeks to Japan for ASTER and TRMM CDRs.

Ed Knight -

Filter performance for band 8 needs a little more checking.

Harry Montgomery -

The ATBD was presented to science personnel on the October 11. Vince Salomonson and Mike King were pleased with the material. The document is in viewgraph format and will be converted to written form by the end of the year.

Larrisa Graziani -

Sulfur may not be the tarnishing agent for the pinhole areas of the CERES mirror. Chemical analysis of the tarnished silver pinhole area indicates chlorine may be problem. Somewhere in the cleaning process, chlorinated solvents may have been left on the substrate.

George Daelemans -

Memo in preparation indicates sunlight reflections off the solar array may not be a problem for MODIS. Thermal Synthesis System (TSS) software developed for Johnson Space Center by Lockheed was used in this analysis.

Bill Mocarsky -

Test fixture development is holding up the EM integration and test. There are delays associated with the rotation table, tilt table, and system fixture. Some items came in covered with grease. This may be corrected by weeks end.

The polarization source assembly is due November 11.

The SMA is due at the end of November.

The dedicated MODIS calibration assembly may be available by the end of November.

Gordon Plews and Vern Alferd mentioned there are crane height problems at El Segundo. Vern believes that they should stay at SBRC through PFM.

The OASIS people may be leaving.

The OBA integration was completed and one STE was delivered.

SBRC recommendation to defer or delete certain CDRLs Due at End of EM Testing

Tom Pagano has recommended deletion or delay for the following CDRLS (519, 222, 404, 025, 307, and 405). His recommendation is in a memo to Lee Tessmer dated October 20 (no PL number available at time of memo). GSFC is still reviewing these recommendations. A little relief may be possible. However, at this time the expectation is that most of these CDRLs are needed at the time indicated in the MODIS contract. GSFC will respond by mid November.

Performance Verification Plan/Spec

Draft actions/comments from the review of the PVP/PVS at SBRC on October 17 and 18 was received via email from Duane Bates on November 3. These comments have been distributed to team members via internet, ccmail, or gsfcmail. Please review and provide any comments to Mike Roberto by November 10.

Nelson Ferragut -

Scan Mirror Bearing Life Test Fixture Investigation: The test chamber drive motors for chambers #3 and #4 were replaced and two flywheels were added to the system. There was nothing wrong inside the vacuum chambers. The torque plots for these two chambers have now been smoothed out. Testing continues.

Other possible errors in torque measurement or false readings were not considered suspect. The discussion is in memo #R04375.

Nelson talked with Scotty Milne regarding sine qualification tests at the component level (MEM, cooler, SRCA, etc.) for MODIS. Scotty mentioned the intent of his recommendation is that the sine qualification tests need only be performed at the full up instrument level.

Bob Silva -

There is now a full time DCMC person at Schaeffer.

Tom Pagano -

The following are the minutes from Tom Pagano:

Systems Engineering Meeting Minutes for 11/1/94

Action Item List.

3. Closed. DC restore functionality will be added to OBC BB test checkout procedure. Algorithm needs to be in place for DC restore functionality.
7. Closed. OBC BB cycle time determined. BB will be heated and allowed to cool for each of the nominal instrument set points in T/V.
18. Open. Systems CDRL list for EM currently under review by NASA. We should hear something from them by next Monday.
30. Closed. Jim Young analyzed the polarization of the OBC blackbody. The polarization is small enough not to affect calibration accuracy.
33. Closed. Jim's assessment is that 350K is adequate for the maximum BCS temperature in T/V infrared calibration testing.

New Items.

Number Item REA Set _Date Due _Date

- | | | | | |
|----|--|-----------------|----------|----------|
| 36 | Determine origin of band 6 LSF error | Therrien | 1-Nov-94 | 1-Dec-94 |
| 37 | Status of Purge Port on -y panel | Cushman | 1-Nov-94 | 1-Dec-94 |
| 38 | Determine temperature set points for EM testing. | Bortfeldt/Dowle | 1-Nov-94 | 1-Dec-94 |
| 39 | Analyze effects of scattered light from earthshine on the fold mirror to calibration accuracy. | Kampe | 1-Nov-94 | 1-Dec-94 |
| 40 | Pol. Source Assy Spec Release | Young | 1-Oct-94 | 7-Nov-94 |
| 41 | Release Algorithm for Polarization Testing | Phan | 1-Nov-94 | 1-Dec-94 |
| 42 | Release Algorithm Test Procedure | Bates | 1-Oct-94 | 7-Nov-94 |
| 43 | Determine MODIS Dummy Mass design for turnover table test | Bell | 1-Nov-94 | 7-Nov-94 |
| 44 | Design thermal panel for T/V testing | Bortfeldt | 1-Nov-94 | 1-Dec-94 |
| | specification | Alferd | 1-Nov-94 | 1-Feb-95 |

Polarization Source Assembly

The PSA is expected to be delivered by 11/21/94. There will be some time required for testing and checkout before it can be used. Jim has the specification in pubs for release of this GSE. Dzung Phan has completed the software to do the data reduction and it is checked out.

Algorithms

The Test Analysis Controller software development team is established. The algorithms for system test are in process. Coding has begun on the registration data reduction. An architecture for removing data from the ARC has been outlined.

Consent to Integrate Meetings

Consent to integrate meetings are to be held on several of the major subassemblies of the Engineering Model. A schedule of these reviews is forthcoming.

Integration and Test Status

Preparations are underway to move the IAC to the new table. There are some deficiencies in the fixturing that are being worked out. Preparations to mount the MODIS to the MSF are underway. We need more support in the integration area.

Test Procedures

The BB/DC restore checkout plan is complete as well as the ambient radiometric characterization plans. These are currently being signed off by systems engineering. The polarization spec needs to be updated ASAP.

PF Focal Plane Testing

VIS, NIR SCA testing complete. Testing of detector assemblies to start next week. SWIR/MWIR & LWIR SCA's were baked to improve performance; some parts did not show improvement.

Structural/Thermal

Structural analysis of the MODIS System Fixture was performed early in the design and was satisfactory. Wolverton suggests we test the turnover table with a dummy mass to validate its functionality before using it on the mainframe.

It is confirmed that there will not be a nadir aperture door or substitute for Engineering Model. A certain panel/shroud is necessary for use with the thermal blankets to simulate the thermal environment. This panel will be designed under P. Bortfeldt's direction. Thermal imaging on EM cards in ambient has been postponed till after EM system testing. This needs to be reflected in the PVS. Temperature sensors are being installed on EM subsystems.

End of Tom's minutes.

SBRC Action Items Tom attached an Excel spreadsheet which included the status of the 46 SBRC systems engineering action items. Two of these action items were assigned to GSFC: Complete MODIS simulator and complete screen design for solar diffuser viewport. Each had due dates of 1 January 95. For the solar diffuser port, GSFC will recommend a hole pattern.

MR 3 November 94